



CONTENTS OF VOLUME 147

Vol. 147B, No. 1

General papers

- | | | |
|---|-----|--|
| E.D. Valakos, A. Kourkouli, M. Skopeliti, P. Pafilis, N. Poulakakis, I.F. Voutsas, P. Lymberakis, C. Simou, W. Voelter and O.E. Tsitsilonis | 1 | Combining immunological and molecular data to assess phylogenetic relations of some Greek <i>Podarcis</i> species |
| T. Li and M. Brouwer | 11 | Hypoxia-inducible factor, gsHIF, of the grass shrimp <i>Palaemonetes pugio</i> : Molecular characterization and response to hypoxia |
| T.D. Lohuis, H.J. Harlow and T.D.I. Beck | 20 | Hibernating black bears (<i>Ursus americanus</i>) experience skeletal muscle protein balance during winter anorexia |
| S.-L. Chen, Y.-X. Zhang, J.-Y. Xu, L. Meng, Z.-X. Sha and G.-C. Ren | 29 | Molecular cloning, characterization and expression analysis of natural resistance associated macrophage protein (Nramp) cDNA from turbot (<i>Scophthalmus maximus</i>) |
| T. Abe, T. Mikekado, S. Haga, Y. Kisara, K. Watanabe, T. Kurokawa and T. Suzuki | 38 | Identification, cDNA cloning, and mRNA localization of a zebrafish ortholog of leukemia inhibitory factor |
| Y. Bao, Y. Yamano and I. Morishima | 45 | β -1,3-Glucan inducible expression of prophenoloxidase-activating proteinase from eri-silkworm, <i>Samia cynthia ricini</i> |
| E. Gómez-Milán, G. Cardenete and M.J. Sánchez-Muros | 49 | Annual variations in the specific activity of fructose 1,6-bisphosphatase, alanine aminotransferase and pyruvate kinase in the <i>Sparus aurata</i> liver |
| J. Liu and C.A. Lessman | 56 | Soluble tubulin complexes, γ -tubulin, and their changing distribution in the zebrafish (<i>Danio rerio</i>) ovary, oocyte and embryo |
| A.T. Abebe, S.J. Devoid, M. Sugumaran, R. Etter and W.E. Robinson | 74 | Identification and quantification of histidine-rich glycoprotein (HRG) in the blood plasma of six marine bivalves |
| C.Y. Choi, K.W. An, P.G. Jo, D.-Y. Kang and Y.J. Chang | 82 | Effects of gonadotropin-releasing hormone analog (GnRHa) on steroidogenic factor-1 (SF-1) and estrogen receptor β (ER β) gene expression in the black porgy (<i>Acanthopagrus schlegelii</i>) |
| E.A. Koutsos, J.C. García López and K.C. Klasing | 87 | Maternal and dietary carotenoids interactively affect cutaneous basophil responses in growing chickens (<i>Gallus gallus domesticus</i>) |
| T. Harnnoi, T. Sakaguchi, Y. Nishikawa, X. Xuan and K. Fujisaki | 93 | Molecular characterization and comparative study of 6 salivary gland metalloproteases from the hard tick, <i>Haemaphysalis longicornis</i> |
| A.C. Pappas, F. Karadas, N.A.R. Wood and B.K. Speake | 102 | Metabolic fates of yolk lipid and individual fatty acids during embryonic development of the coot and moorhen |

Contents of volume

- A. Cohen, K. Klasing and R. Ricklefs 110 Measuring circulating antioxidants in wild birds
- Y.J. Chang, B.H. Min and C.Y. Choi 122 Black porgy (*Acanthopagrus schlegeli*) prolactin cDNA sequence: mRNA expression and blood physiological responses during freshwater acclimation
- R. Dash, S.K. Ghosh, D.L. Kaplan and S.C. Kundu 129 Purification and biochemical characterization of a 70 kDa sericin from tropical tasar silkworm, *Antheraea mylitta*
- P. Xu, X. Tan, Y. Zhang, P.-J. Zhang and Y. Xu 135 Cloning and expression analysis of *myogenin* from flounder (*Paralichthys olivaceus*) and promoter analysis of muscle-specific expression

Vol. 147B, No. 2

General papers

- X. Gou, N. Li, L. Lian, D. Yan, H. Zhang, Z. Wei and C. Wu 147 Hypoxic adaptations of hemoglobin in Tibetan chick embryo: High oxygen-affinity mutation and selective expression
- E. Psochiou, Z. Mamuris, P. Panagiotaki, D. Kouretas and K.A. Moutou 156 The response of digestive proteases to abrupt salinity decrease in the euryhaline sparid *Sparus aurata* L.
- M. Jimbo, R. Usui, R. Sakai, K. Muramoto and H. Kamiya 164 Purification, cloning and characterization of egg lectins from the teleost *Tribolodon brandti*
- J. Xing, O. Wellman-Labadie, J. Gautron and M.T. Hincke 172 Recombinant eggshell ovocalyxin-32: Expression, purification and biological activity of the glutathione *S*-transferase fusion protein
- Y.S. Cho, S.E. Douglas, J.W. Gallant, K.Y. Kim, D.S. Kim and Y.K. Nam 178 Isolation and characterization of cDNA sequences of L-gulonogamma-lactone oxidase, a key enzyme for biosynthesis of ascorbic acid, from extant primitive fish groups
- C.-Z. Feng, X.-J. Zhu, Z.-M. Dai, F.-Q. Liu, J.-H. Xiang and W.-J. Yang 191 Identification of a novel DNA methyltransferase 2 from the brine shrimp, *Artemia franciscana*
- M. Seppola, B. Robertsen and I. Jensen 199 The gene structure and expression of the non-specific cytotoxic cell receptor protein (NCCRP-1) in Atlantic cod (*Gadus morhua* L.)
- S.L. Hsieh, H.C. Chuang, F.H. Nan, Y.H. Ruan and C.M. Kuo 209 Molecular cloning and gene expression of the gonadotropin-releasing hormone receptor in the orange-spotted grouper, *Epinephelus coioides*
- M.-R. Wang, X.-J. Zhu, J.-S. Yang, Z.-M. Dai, K. Mahmood, F. Yang and W.-J. Yang 222 Prawn lipocalin: Characteristics and expressional pattern in subepidermal adipose tissue during reproductive molting cycle
- Y. Suma, S. Ishizaki, Y. Nagashima, Y. Lu, H. Ushio and K. Shiomi 230 Comparative analysis of barnacle tropomyosin: Divergence from decapod tropomyosins and role as a potential allergen
- G. Osthoff, A. Hugo and M. de Wit 237 The composition of serval (*Felis serval*) milk during mid-lactation
- B. Manconi, A. Olinas, M.T. Sanna, I. Messina, L. Demurtas, M. Castagnola, B. Giardina and M. Pellegrini 242 Functional characterization of the single hemoglobin of the migratory bird *Ciconia ciconia*
- T. Ytrestøyl and B. Bjerkeng 250 Intraperitoneal and dietary administration of astaxanthin in rainbow trout (*Oncorhynchus mykiss*) — Plasma uptake and tissue distribution of geometrical *E/Z* isomers

- M. Theodosiou, J.R. Monaghan, M.L. Spencer, S.R. Voss and D.J. Noonan 260 Isolation and characterization of axolotl NPDC-1 and its effects on retinoic acid receptor signaling
- X. Li, Z. Zhu, D. Mo, H. Wang, S. Yang, S. Zhao and K. Li 271 Comparative molecular characterization of *ADSS1* and *ADSS2* genes in pig (*Sus scrofa*)
- S. Skiba-Cassy, A. Collin, P. Chartrin, F. Médale, J. Simon, M.J. Duclos and S. Tesseraud 278 Chicken liver and muscle carnitine palmitoyltransferase I: Nutritional regulation of messengers
- M. Gołgbiowski, E. Maliński, J. Nawrot, J. Szafranek and P. Stepnowski 288 Identification of the cuticular lipid composition of the Western Flower Thrips *Frankliniella occidentalis*
- N. Endo, N. Kan-no and E. Nagahisa 293 Purification, characterization, and cDNA cloning of opine dehydrogenases from the polychaete rockworm *Marphysa sanguinea*
- P.V.A. Babu, A. Gokulakrishnan, R. Dhandayuthabani, D. Ameethkhan, C.V.P. Kumar and M.I.N. Ahamed 308 Protective effect of *Withania somnifera* (Solanaceae) on collagen glycation and cross-linking
- S. Thammasirirak, S. Preecharram, P. Ponkham, S. Daduang, T. Araki and J. Svasti 314 New variant of quail egg white lysozyme identified by peptide mapping
- X. Ma, X. Liu, Y. Zhang, P. Zhu, W. Ye and H. Lin 325 Two growth hormone receptors in Nile tilapia (*Oreochromis niloticus*): Molecular characterization, tissue distribution and expression profiles in the gonad during the reproductive cycle
- M. Rault, C. Mazzia and Y. Capowicz 340 Tissue distribution and characterization of cholinesterase activity in six earthworm species

Vol. 147B, No. 3

Review

- K. Riyahi and S.M. Shimeld 347 Chordate $\beta\gamma$ -crystallins and the evolutionary developmental biology of the vertebrate lens

General papers

- T. Tsugehara, S. Iwai, Y. Fujiwara, K. Mita and M. Takeda 358 Cloning and characterization of insect arylalkylamine *N*-acetyltransferase from *Bombyx mori*
- E. Psochiou, E. Sarropoulou, Z. Mamuris and K.A. Moutou 367 Sequence analysis and tissue expression pattern of *Sparus aurata* chymotrypsinogens and trypsinogen
- N. Souchet and S. Laplante 378 Seasonal and geographical variations of sterol composition in snow crab hepatopancreas and pelagic fish viscera from Eastern Quebec
- M.L.S. Souza, J.M.M. Dellias, F.R. Melo and L.-C.F. Silva 387 Structural composition and anticoagulant activity of dermatan sulfate from the skin of the electric eel, *Electrophorus electricus* (L.)
- J. Hildahl, M. Galay-Burgos, G. Sweeney, I.E. Einarsdóttir and B.T. Björnsson 395 Identification of two isoforms of Atlantic halibut insulin-like growth factor-I receptor genes and quantitative gene expression during metamorphosis

J. Hudon, M. Anciães, V. Bertacche and R. Stradi	402	Plumage carotenoids of the Pin-tailed Manakin (<i>Ilicura militaris</i>): Evidence for the endogenous production of rhodoxanthin from a colour variant
S.G. Lynn and B.S. Shepherd	412	Molecular characterization and sex-specific tissue expression of prolactin, somatolactin and insulin-like growth factor-I in yellow perch (<i>Perca flavescens</i>)
V.J. Metcalf, P.M. George and S.O. Brennan	428	Lungfish albumin is more similar to tetrapod than to teleost albumins: Purification and characterisation of albumin from the Australian lungfish, <i>Neoceratodus forsteri</i>
S.-L. Hsieh, C.-Y. Hu, Y.-T. Hsu and T.-J. Hsieh	438	Influence of dietary lipids on the fatty acid composition and stearyl-CoA desaturase expression in hybrid tilapia (<i>Oreochromis niloticus</i> × <i>O. aureus</i>) under cold shock
C.L. Xu, Y.Z. Wang, J. Guo, J.X. Liu and J. Feng	445	Comparison of age-related differences in expression of antioxidant enzyme mRNA and activity in various tissues of pigs
H.-Q. Ye, S.-L. Chen and J.-Y. Xu	452	Molecular cloning and characterization of the Myf5 gene in sea perch (<i>Lateolabrax japonicus</i>)
Z. Chen, H. Zhang, H. Yang, X. Huang, X. Zhang and P. Zhang	460	The expression of <i>AmphiTCTP</i> , a <i>TCTP</i> orthologous gene in amphioxus related to the development of notochord and somites
Z. Zhang, Y. Wang, Y. Jiang, P. Lin, X. Jia and Z. Zou	466	Ribosomal protein L24 is differentially expressed in ovary and testis of the marine shrimp <i>Marsupenaeus japonicus</i>
G. Solgaard, I.B. Standal and K.I. Draget	475	Proteolytic activity and protease classes in the zooplankton species <i>Calanus finmarchicus</i>
W. Luana, F. Li, B. Wang, X. Zhang, Y. Liu and J. Xiang	482	Molecular characteristics and expression analysis of calreticulin in Chinese shrimp <i>Fenneropenaeus chinensis</i>
K. Müller, C.C. Voigt, J. Raila, A. Hurtienne, M. Vater, L. Brunnberg and F.J. Schweigert	492	Concentration of carotenoids, retinol and α -tocopherol in plasma of six micro-chiroptera species
A. Caputi Jambrenghi, G. Paglialonga, A. Gnani, F. Zanotti, F. Giannico, G. Vonghia and G.V. Gnani	498	Changes in lipid composition and lipogenic enzyme activities in liver of lambs fed ω -6 polyunsaturated fatty acids
P.A. Wang, J. Stenvik, R. Larsen, H. Mæhre and R.L. Olsen	504	Cathepsin D from Atlantic cod (<i>Gadus morhua</i> L.) liver. Isolation and comparative studies
H. Onoe, A. Matsumoto, K. Hashimoto, Y. Yamano and I. Morishima	512	Peptidoglycan recognition protein (PGRP) from eri-silkworm, <i>Samia cynthia ricini</i> ; protein purification and induction of the gene expression
N. Saha, S. Datta, Z.Y. Kharbuli, K. Biswas and A. Bhattacharjee	520	Air-breathing catfish, <i>Clarias batrachus</i> upregulates glutamine synthetase and carbamyl phosphate synthetase III during exposure to high external ammonia
M. González-Riopedre, A. Novás, E. Dobaño, J.I. Ramos-Martínez and R. Barcia	531	Effect of thermal stress on protein expression in the mussel <i>Mytilus galloprovincialis</i> Lmk
M. Tine, J. de Lorgetil, J. Panfili, K. Diop, F. Bonhomme and J.-D. Durand	541	Growth hormone and Prolactin-I gene transcription in natural populations of the black-chinned tilapia <i>Sarotherodon melanotheron</i> acclimatised to different salinities

- N. Bihari, M. Fafandel and L. Perić 550 Tissue distribution of neutral deoxyribonuclease (DNase) activity in the mussel *Mytilus galloprovincialis*
- F. Pernet, S. Gauthier-Clerc and É. Mayrand 557 Change in lipid composition in eastern oyster (*Crassostrea virginica* Gmelin) exposed to constant or fluctuating temperature regimes
- L. Favre-Krey, M. Theodoridou, E. Boukouvala, C.H. Panagiotidis, A.I. Papadopoulos, T. Sklaviadis and G. Krey 566 Molecular characterization of a cDNA from the gilthead sea bream (*Sparus aurata*) encoding a fish prion protein
- Y.J. Kim, K.S. Lee, B.Y. Kim, Y.M. Choo, H.D. Sohn and B. Rae Jin 574 Thioredoxin from the silkworm, *Bombyx mori*: cDNA sequence, expression, and functional characterization

Vol. 147B, No. 4

General papers

- M. Papina, T. Meziane and R. van Woesik 583 Acclimation effect on fatty acids of the coral *Montipora digitata* and its symbiotic algae
- J.L. Martínez-Guitarte, R. Planelló and G. Morcillo 590 Characterization and expression during development and under environmental stress of the genes encoding ribosomal proteins L11 and L13 in *Chironomus riparius*
- D. Bittencourt, B.M. Souto, N.C. Verza, F. Vinecky, K. Dittmar, P.I. Silva Jr., A.C. Andrade, F.R. da Silva, R.V. Lewis and E.L. Rech 597 Spidroins from the Brazilian spider *Nephilengys cruentata* (Araneae: Nephilidae)
- S.C. Kales, N.C. Bols and B. Dixon 607 Calreticulin in rainbow trout: A limited response to Endoplasmic Reticulum (ER) stress
- M. Pirini, M.P. Manuzzi, A. Pagliarini, F. Trombetti, A.R. Borgatti and V. Ventrella 616 Changes in fatty acid composition of *Mytilus galloprovincialis* (Lmk) fed on microalgal and wheat germ diets
- G.P. Laliotis, I. Bizelis, A. Argyrokastritis and E. Rogdakis 627 Cloning, characterization and computational analysis of the 5' regulatory region of ovine glucose 6-phosphate dehydrogenase gene
- A. Kumagai, S.-I. Chisada, Y. Kamei, M. Ito and S. Hayashi 635 Ganglioside from eel serum high density lipoprotein (HDL) and its role as a ligand for HDL binding protein
- A.P. Treschow, L.D. Hodges, P.F.A. Wright, P.M. Wynne, N. Kalafatis and T.A. Macrides 645 Novel anti-inflammatory ω -3 PUFAs from the New Zealand green-lipped mussel, *Perna canaliculus*
- E.C. Pope, G.W. Taylor and A.F. Rowley 657 Biosynthesis and functions of eicosanoids generated by the coelomocytes of the starfish, *Asterias rubens*
- S. Niimi, E.-Y. Kim, H. Iwata, M.X. Watanabe, G. Yasunaga, Y. Fujise and S. Tanabe 667 Identification and hepatic expression profiles of cytochrome P450 1-4 isozymes in common minke whales (*Balaenoptera acutorostrata*)
- S. Klomklao, H. Kishimura, M. Yabe and S. Benjakul 682 Purification and characterization of two pepsins from the stomach of pectoral rattail (*Coryphaenoides pectoralis*)

Contents of volume

- | | |
|---|---|
| <p>N. Nishii, M. Takasu, O.K. Soe, S. Maeda,
Y. Ohba, M. Inoue-Murayama and
H. Kitagawa</p> <p>H.S. Seol, K. Sato, Y. Matsubara,
W.J. Schneider and Y. Akiba</p> <p>Q. Gao, L. Song, D. Ni, L. Wu, H. Zhang
and Y. Chang</p> <p>M. Higuchi, K. Haginoya, T. Yamazaki,
K. Miyamoto, T. Katagiri, K. Tomimoto,
Y. Shitomi, T. Hayakawa, R. Sato and
H. Hori</p> | <p>690 Cloning, expression and investigation for polymorphisms of canine peroxisome proliferator-activated receptors</p> <p>698 Modulation of sterol regulatory element binding protein-2 in response to rapid follicle development in chickens</p> <p>704 cDNA cloning and mRNA expression of heat shock protein 90 gene in the haemocytes of Zhikong scallop <i>Chlamys farreri</i></p> <p>716 Binding of <i>Bacillus thuringiensis</i> CryIA toxins to brush border membrane vesicles of midgut from CryIAc susceptible and resistant <i>Plutella xylostella</i></p> |
|---|---|

I Contents of Volume 147

VII Subject Index

X Author Index

SUBJECT INDEX

Vol. 147B, Nos. 1-4

- A23187, 607
Acanthopagrus schlegeli, 82, 122
 Acclimation, 557
 Acidic proteinase, 682
 Acom barnacle, 230
 ADAM, 93
 Adaptation, 541
 Adenylosuccinate synthetase, 271
 Adipocytes, 690
 Adipose tissue, 690
 ADSS1, 271
 ADSS2, 271
 Advanced glycation end products, 308
 Alanine aminotransferase, 49
 Alanopine dehydrogenase, 293
 Albumin, 428
 Allergen, 230
Ambystoma mexicanum, 260
 Amino acid sequence, 293, 314
 Ammonia, 520
 Ammonium chloride, 520
 Amphioxus, 347, 460
AmphiTCTP, 460
 Antibodies, 504
 Anti-inflammatory, 645
 Antimicrobial, 172
 Antioxidant, 110
 Antioxidant enzyme, 445, 574
 Arachidonic acid, 102
Artemia franciscana, 191
 Arylalkylamine *N*-acetyltransferase, 358
 Ascorbic acid, 178
 Ashwagandha, 308
 Astaxanthin, 250
 Astaxanthin *E/Z*-isomers, 250
 Atlantic cod, 199
 Atlantic halibut, 395
 Avian, 87
 Axolotl, 260

Bacillus thuringiensis, 716
 Baculovirus expression system, 358
 Bats, 492
 BBMV, 716
 Bears, 20
 Bioavailability, 250
 Biomarker, 340, 531, 704
 Bird, 110
 Bivalve, 74
 Black porgy, 82, 122
 Bleaching, 583

 Blood, 428, 492
 Blood coagulation, 387
 Blood plasma, 74
 Bohr effect, 242
Bombyx mori, 358, 574

 Cadmium, 74, 590
Calanus finmarchicus, 475
 Calcium, 607
 Calreticulin, 482, 607
 Carboxypeptidase inhibitor, 172
 Carboxypeptidases, 156
 Carnitine palmitoyltransferase 1, 278
 Carnivores, 237
 Carotenoid, 87
 Carotenoids, 402, 492
 Catalase, 445
 Cathepsin D, 504
 CD spectroscopy, 129
 cDNA, 29, 38, 178, 222, 293
 cDNA cloning, 230, 690, 704
 cDNA sequence, 367
 Cellular defence reactions, 657
 Characterization, 504
 Chicken, 278
 Chironomus, 590
 Chloride, 242
 Cholesterol, 698
 Cholinesterase activity, 340
 Chymotrypsin, 156
 Chymotrypsinogen, 367
Ciconia ciconia, 242
Ciona, 347
 Clip-domain serine proteinase, 45
 Cloning, 412, 482, 627
 Cocoon, 129
 Cod, 504
 Cod juveniles, 475
 Cold, 438
 Collagen cross-linking, 308
 Colour variant, 402
 Common minke whale, 667
 Composition, 378
 Coot, 102
 Copper-zinc superoxide dismutase, 445
 Coral, 583
 Co-regulator, 260
 Cortisol, 520
Coturnix, 314
 Cross reactivities, 504
 Cross-reactivity, 230

 Crustacea, 230
 Cry1Ac toxin, 716
 Crystallin, 347
 Cultured hepatocytes, 635
 Cutaneous basophil hypersensitivity, 87
 Cuticular lipids, 288
 CYP3A, 667
 CYP4A, 667
 CYP2C, 667
 CYP2E, 667
 CYP4V, 667
 Cytokine, 38

Danio rerio, 56
 De novo fatty acid synthesis, 498
 Decapod, 230
 Deoxyribonuclease, 550
 Dermatan sulfate, 387
 Desaturase, 438
 Development, 191, 395, 460
 Diapause cysts, 191
 Diet, 438
 Differential expression, 466
 Digestive proteases, 156
 Diptera, 590
 DNA, 412
 Dnmt2, 191
 Docosahexaenoic acid, 102
 Dogs, 690
 Dopamine, 358

 Earthworms, 340
 Eel, 635
 Egg, 87, 102, 164
 Eggshell matrix protein, 172
 Eicosanoid, 645
 Eicosanoids, 657
 Elastase, 156
 Electric eel, 387
 Electrophoretic profile, 531
Electrophorus electricus, 387
 ELISA, 74
 Embryo, 147
 Embryogenesis, 260
 Enthalpy, 242
 Enzyme activity, 314, 550
 ER β , 82
 Eri-silkworm, 45, 512
 EST, 597
 Estuaries, 541
 Evolution, 347

Subject Index

- Expressed sequence tag, 704
 Expression, 29, 82, 209, 445, 482
- Fasting, 20, 278
 Fatty acid, 237, 557
 Fatty acid chain elongation and desaturation, 498
 Fatty acid composition, 616
 Fatty acids, 102, 583
 Feed, 475
 Feeding, 616
Felis serval, 237
Fenneropenaeus chinensis, 482
 Field conditions, 340
 Fish, 199, 682
 Fish egg lectin, 164
 Flounder, 135
 Follicle development, 698
 Freshwater acclimation, 122
 Fructose biphosphatase, 49
- Gambia, 541
 Ganglioside, 635
 Gene expression, 11, 452
 Geographical, 378
 Gilthead sea bream, 566
 β -1, 3-Glucan, 45
 Glucose, 49
 Glutamine, 520
 Glutathione peroxidase, 445
 Glycation, 308
 Glycosaminoglycan, 387
 GnRH, 209
 GnRH receptor, 209
 GnRH α , 82
 Golden-winged Manakin, 402
 Goose barnacle, 230
 G6PD, 627
 Grouper, 209
 Growth, 541
 Growth hormone (GH), 412
 Growth hormone receptor, 325
 GULO, 178
- Haemaphysalis longicornis*, 93
 Haemocytes, 531
 Hatchability, 147
 Heat shock, 482, 590
 Heat shock protein 90, 704
 Heavy metal stress, 704
 Hemoglobin, 147, 242
 Hepatopancreas, 378
 Herring, 378
 Hibernation, 20
 HIF-1 α , 147
 High density lipoprotein, 635
 High density lipoprotein binding assay, 635
 High density lipoprotein binding protein, 635
Hippoglossus hippoglossus, 395
 Homeoviscous adaptation, 557
 HRG, 74
- HSP60, 531
 HSP70, 531
 β -Hydroxyacyl CoA dehydrogenase, 278
 6-hydroxy- ϵ , ϵ -carotene-3,3'-dione, 402
 Hypoxia, 11, 147
 Hypoxia-inducible factor, 11
- Idoxanthin, 250
 IGF-I, 395
 IGF-R, 395
Ilicura militaris, 402
 IMAC, 74
 Immobility, 20
 Indian ginseng, 308
 Inhibitors, 475
 Innate immunity, 199
 Insect, 574
 Insect immunity, 45, 512
 Insulin-like growth factor-I (IGF-I), 412
 Intraperitoneal administration, 250
 Irradiance, 583
 Isolation, 682
- L11, 590
 L13, 590
 Lacertidae, 1
 Lamb, 498
Lateolabrax japonicus, 452
 Lens, 347
 Leukemia inhibitory factor, 38
 Life-history, 110
 Ligand blotting, 635
 Lipid, 102, 438
 Lipid class, 557
 Lipids, 237
 Lipocalin, 222
 Lipoxygenase, 645
 Liver, 498
 Liver X receptor alpha, 698
 Lobe-finned fish, 428
 Low-density lipoprotein receptor, 698
 Lungfish, 428
 Lutein, 87
 Lyprinol[®], 645
 Lysozyme type C, 314
 Lysozyme variant, 314
- Mackerel, 378
 Marine invertebrate, 293
Marphysa sanguinea, 293
 Mass spectrometry, 657
 Maturation, 222
 Mechanism of Cry toxin resistance, 716
 Metabolism, 49, 278
 Metal carrier, 74
 Metalloproteases, 93
 Metamorphosis, 395
 Metformin, 308
 Microchiroptera, 492
 Microglobulin, 607
 Microsomes, 498
- Microtubule, 56
 Midgut brush border membrane vesicle, 716
 Migratory bird, 242
 Milk composition, 237
 Mitochondria, 498
 Molecular, 412
 Mollusk, 557
 Molting cycle, 222
 Molting stage, 482
Montipora digitata, 583
 Moorhen, 102
 mRNA, 445
 mRNA expression, 541, 667, 690, 704
 mtDNA analysis, 1
 Muscle, 452
 Muscle degradation, 504
 Muscle retention, 250
 Mussel, 550
 Myf5, 452
 Myogenesis, 135
 Myogenin, 135
Myogenin promoter, 135
Mytilus, 531
Mytilus galloprovincialis, 550, 616
- NCC, 199
 NCCRP-1, 199
 NCCRP-1 promoter, 199
Neoceratodus forsteri, 428
 Neutral DNase, 550
 Nile tilapia (*Oreochromis niloticus*), 325
 NMI fatty acids, 616
 Non-mulberry silkworm, 129
 Norepinephrine, 358
 Northern blot, 325
 Notochord, 460
 NPDC-1, 260
 Nramp, 29
 Nutrition, 237
- Obesity, 690
 Octopamine, 358
 Oogenesis, 466
 Opine dehydrogenase, 293
 Ornithine-urea cycle, 520
 Osmoregulation, 122, 541
 Ovary, 164
 Ovocalyxin-32, 172
 Oxidative stress, 574
 Oxygen affinity, 242
- Palaemonetes pugio*, 11
 Pepsin, 682
 Peptide mapping, 314
 Peptidoglycan recognition protein, 512
Perna canaliculus, 645
 Peroxisome proliferator-activated receptors, 690
 Pest management, 288
 PGRP, 512
 PHA, 87

- Phagocytosis, 657
 Phosphate binding, 242
 Phospholipid, 557
 Phospholipid classes, 616
 Photoperiod, 49
 Phylogenetic classification, 11
 Phylogenetics, 566
 Physiology, 110
 Pig, 271
 Pigs, 445
 Pin-tailed Manakin, 402
 Placode, 347
 Plasma concentration, 250
Plutella xylostella, 716
Podarcis sp., 1
 Polychaete, 293
 Polymorphism, 690
 Prawn, 222
 Primitive fish group, 178
 Prion protein, 566
 Proenzyme activation, 93
 Prolactin, 122
 Prolactin (PRL), 412
 Promoter, 627
 Prophenoloxidase-activating proteinase, 45
 Prostaglandins, 657
 Protease classes, 475
 Protein, 237
 Protein expression, 531
 Protein sparing, 20
 Protein synthesis and breakdown, 20
 Proteolytic activity, 475
 ω -3 PUFA, 645
 Purification, 314, 504, 682
 Pyruvate kinase, 49

 Quail egg white lysozyme, 314

 Rainbow trout, 250, 607
 Rat tail tendon, 308
 Reactive oxygen species (ROS), 574
 Real-time PCR, 199
 Real-time RT-PCR, 325
 Reproductive cycle, 325
 Reprolysin, 93
 Reptile phylogeny, 1
 Retinoic acid, 260
 Retinoic acid receptor, 260
 Retinol, 492
 Retinol-binding protein, 492
 L-rhamnose binding lectin, 164
 Rhodoxanthin, 402

 Ribosomal protein, 466
 Ribosomal protein genes, 590
 Ring complex, 56
 Rock Pigeon, 402
 RTS11, 607

 Safflower oil, 498
 Salinity, 156
 Saloum, 541
Samia cynthia ricini, 45, 512
 Sarcophagii, 428
Scophthalmus maximus, 29
 Sea perch, 452
 Seasonal, 378
 Seasonal changes, 49
 Sequence, 597
 Sericin, 129
 Serotonin, 358
 Serval, 237
 SF-1, 82
 Sheep, 627
 Shrimp, 466
 Silk, 597
 Silk gland, 129
 Silkworm, 574
 Snow crab, 378
 SNP, 271
 Soil biomonitoring, 340
 Somatolactin (SL), 412
 Somites, 135
 Somitogenesis, 460
Sparus aurata, 49, 156, 367
 Spider, 597
 Spidroins, 597
 Starfish, 657
 Sterol regulatory element binding proteins, 698
 Sterols, 378
 Stomach, 682
 Stress, 110, 531
 Stress responses, 122
 Strombine dehydrogenase, 293
 Succinyl-CoA:3-ketoacid CoA transferase, 278
 Supercritical fluid extract, 645
 Suppression-subtractive hybridization, 466
Sus scrofa, 271
 Symbiosis, 583
 Synteny, 38

 TAS, 110
 TEAC, 110
 Teleost, 428

 Temperature, 49, 583
 Temperature fluctuation, 557
Tetraodon, 38
 Tetrapod, 428
 Thapsigargin, 607
 Thioredoxin peroxidase (TPx), 574
 Thioredoxin (Trx), 574
 Thrombin, 387
 Tibetan chick, 147
 Tick, 93
 Tissue distribution, 325, 550
 Tissue mRNA expression, 566
 α -Tocopherol, 492
 Tracheless protein, 11
 Transcription factor, 260
 Transcription factors, 627
 Transport protein, 74
 Transthyretin, 492
Triborodon brandti, 164
 Tropomyosin, 230
 Trypsin, 156
 Trypsinogen, 367
 Tryptamine, 358
 γ -Tubulin, 56
 Tubulin oligomers, 56
 Turbot, 29

 Urea, 520
 Ureogenesis, 520
 Uric acid, 110

 Variation, 541
 Variations, 378
 Viscera, 378, 682

 Western Flower Thrips, 288
 Wing web, 87
Withania somnifera, 308
 WSSV challenge, 482

 Xenogeneic mixed lymphocyte reaction, 1

 Yellow perch, 412
 Yolk, 102

 Zebrafish, 38, 135
 Zhikong scallop *Chlamys farreri*, 704
 Zooxanthellae, 583

AUTHOR INDEX

Vol. 147B, Nos. 1-4

- Abe, T., 38
Abebe, A.T., 74
Ahamed, M.I.N., 308
Akiba, Y., 698
Ameethkhan, D., 308
An, K.W., 82
Anciães, M., 402
Andrade, A.C., 597
Araki, T., 314
Argyrokastritis, A., 627

Babu, P.V.A., 308
Bao, Y., 45
Barcia, R., 531
Beck, T.D.I., 20
Benjakul, S., 682
Bertacche, V., 402
Bhattacharjee, A., 520
Bihari, N., 550
Biswas, K., 520
Bittencourt, D., 597
Bizelis, I., 627
Bjerkeng, B., 250
Björnsson, B.T., 395
Bols, N.C., 607
Bonhomme, F., 541
Borgatti, A.R., 616
Boukouvala, E., 566
Brennan, S.O., 428
Brouwer, M., 11
Brunnberg, L., 492

Capowiez, Y., 340
Caputi Jambrenghi, A., 498
Cardenete, G., 49
Castagnola, M., 242
Chang, Y., 704
Chang, Y.J., 82
Chang, Y.J., 122
Chartrin, P., 278
Chen, S.-L., 29
Chen, S.-L., 452
Chen, Z., 460
Chisada, S.-i., 635
Cho, Y.S., 178
Choi, C.Y., 82
Choi, C.Y., 122
Choo, Y.M., 574
Chuang, H.C., 209
Cohen, A., 110
Collin, A., 278

da Silva, F.R., 597
Daduang, S., 314
Dai, Z.-M., 191
Dai, Z.-M., 222
Dash, R., 129
Datta, S., 520
de Lorgeteril, J., 541
de Wit, M., 237
Dellias, J.M.M., 387
Demurtas, L., 242
Devoid, S.J., 74
Dhandayuthabani, R., 308
Diop, K., 541
Dittmar, K., 597
Dixon, B., 607
Dobaño, E., 531
Douglas, S.E., 178
Draget, K.I., 475
Duclos, M.J., 278
Durand, J.-D., 541

Einarsdóttir, I.E., 395
Endo, N., 293
Etter, R., 74

Fafandel, M., 550
Favre-Krey, L., 566
Feng, C.-Z., 191
Feng, J., 445
Fujisaki, K., 93
Fujise, Y., 667
Fujiwara, Y., 358

Galay-Burgos, M., 395
Gallant, J.W., 178
Gao, Q., 704
García López, J.C., 87
Gauthier-Clerc, S., 557
Gautron, J., 172
George, P.M., 428
Ghosh, S.K., 129
Giannico, F., 498
Giardina, B., 242
Gnoni, A., 498
Gnoni, G.V., 498
Gokulakrishnan, A., 308
Gołębowski, M., 288
Gómez-Milán, E., 49
González-Riopedre, M., 531
Gou, X., 147
Guo, J., 445

Haga, S., 38
Haginoya, K., 716
Harlow, H.J., 20
Harnnoi, T., 93
Hashimoto, K., 512
Hayakawa, T., 716
Hayashi, S., 635
Higuchi, M., 716
Hildahl, J., 395
Hincke, M.T., 172
Hodges, L.D., 645
Hori, H., 716
Hsieh, S.L., 209
Hsieh, S.-L., 438
Hsieh, T.-J., 438
Hsu, Y.-T., 438
Hu, C.-Y., 438
Huang, X., 460
Hudon, J., 402
Hugo, A., 237
Hurtienne, A., 492

Inoue-Murayama, M., 690
Ishizaki, S., 230
Ito, M., 635
Iwai, S., 358
Iwata, H., 667

Jensen, I., 199
Jia, X., 466
Jiang, Y., 466
Jimbo, M., 164
Jo, P.G., 82

Kalafatis, N., 645
Kales, S.C., 607
Kamei, Y., 635
Kamiya, H., 164
Kang, D.-Y., 82
Kan-no, N., 293
Kaplan, D.L., 129
Karadas, F., 102
Katagiri, T., 716
Kharbuli, Z.Y., 520
Kim, B.Y., 574
Kim, D.S., 178
Kim, E.-Y., 667
Kim, K.Y., 178
Kim, Y.J., 574
Kisara, Y., 38
Kishimura, H., 682

- Kitagawa, H., 690
 Klasing, K., 110
 Klasing, K.C., 87
 Klomklao, S., 682
 Kouretas, D., 156
 Kourkouli, A., 1
 Koutsos, E.A., 87
 Krey, G., 566
 Kumagai, A., 635
 Kumar, C.V.P., 308
 Kundu, S.C., 129
 Kuo, C.M., 209
 Kurokawa, T., 38

 Laliotis, G.P., 627
 Laplante, S., 378
 Larsen, R., 504
 Lee, K.S., 574
 Lessman, C.A., 56
 Lewis, R.V., 597
 Li, F., 482
 Li, K., 271
 Li, N., 147
 Li, T., 11
 Li, X., 271
 Lian, L., 147
 Lin, H., 325
 Lin, P., 466
 Liu, F.-Q., 191
 Liu, J., 56
 Liu, J.X., 445
 Liu, X., 325
 Liu, Y., 482
 Lohuis, T.D., 20
 Lu, Y., 230
 Luana, W., 482
 Lymberakis, P., 1
 Lynn, S.G., 412

 Ma, X., 325
 Macrides, T.A., 645
 Maeda, S., 690
 Mahmood, K., 222
 Mähre, H., 504
 Maliński, E., 288
 Mamuris, Z., 156
 Mamuris, Z., 367
 Manconi, B., 242
 Manuzzi, M.P., 616
 Martínez-Guitarte, J.L., 590
 Matsubara, Y., 698
 Matsumoto, A., 512
 Mayrand, É., 557
 Mazzia, C., 340
 Médale, F., 278
 Melo, F.R., 387
 Meng, L., 29
 Messana, I., 242
 Metcalf, V.J., 428
 Meziane, T., 583
 Mikekado, T., 38

 Min, B.H., 122
 Mita, K., 358
 Miyamoto, K., 716
 Mo, D., 271
 Monaghan, J.R., 260
 Morcillo, G., 590
 Morishima, I., 45
 Morishima, I., 512
 Moutou, K.A., 156
 Moutou, K.A., 367
 Müller, K., 492
 Muramoto, K., 164

 Nagahisa, E., 293
 Nagashima, Y., 230
 Nam, Y.K., 178
 Nan, F.H., 209
 Nawrot, J., 288
 Ni, D., 704
 Niimi, S., 667
 Nishii, N., 690
 Nishikawa, Y., 93
 Noonan, D.J., 260
 Novás, A., 531

 Ohba, Y., 690
 Olianias, A., 242
 Olsen, R.L., 504
 Onoe, H., 512
 Osthoff, G., 237

 Pafilis, P., 1
 Paglialonga, G., 498
 Pagliarani, A., 616
 Panagiotaki, P., 156
 Panagiotidis, C.H., 566
 Panfili, J., 541
 Papadopoulos, A.I., 566
 Papina, M., 583
 Pappas, A.C., 102
 Pellegrini, M., 242
 Perić, L., 550
 Pernet, F., 557
 Pirini, M., 616
 Planelló, R., 590
 Ponkham, P., 314
 Pope, E.C., 657
 Poulakakis, N., 1
 Preecharram, S., 314
 Psochiou, E., 156
 Psochiou, E., 367

 Rae Jin, B., 574
 Raila, J., 492
 Ramos-Martínez, J.I., 531
 Rault, M., 340
 Rech, E.L., 597
 Ren, G.-C., 29
 Ricklefs, R., 110
 Riyahi, K., 347
 Robertsen, B., 199

 Robinson, W.E., 74
 Rogdakis, E., 627
 Rowley, A.F., 657
 Ruan, Y.H., 209

 Saha, N., 520
 Sakaguchi, T., 93
 Sakai, R., 164
 Sánchez-Muros, M.J., 49
 Sanna, M.T., 242
 Sarropoulou, E., 367
 Sato, K., 698
 Sato, R., 716
 Schneider, W.J., 698
 Schweigert, F.J., 492
 Seol, H.S., 698
 Seppola, M., 199
 Sha, Z.-X., 29
 Shepherd, B.S., 412
 Shimeld, S.M., 347
 Shiomi, K., 230
 Shitomi, Y., 716
 Silva, L.-C.F., 387
 Silva Jr., P.I., 597
 Simon, J., 278
 Simou, C., 1
 Skiba-Cassy, S., 278
 Sklaviadis, T., 566
 Skopeliti, M., 1
 Soe, O.K., 690
 Sohn, H.D., 574
 Solgaard, G., 475
 Song, L., 704
 Souchet, N., 378
 Souto, B.M., 597
 Souza, M.L.S., 387
 Speake, B.K., 102
 Spencer, M.L., 260
 Standal, I.B., 475
 Stenvik, J., 504
 Stepnowski, P., 288
 Stradi, R., 402
 Sugumaran, M., 74
 Suma, Y., 230
 Suzuki, T., 38
 Svasti, J., 314
 Sweeney, G., 395
 Szafrank, J., 288

 Takasu, M., 690
 Takeda, M., 358
 Tan, X., 135
 Tanabe, S., 667
 Taylor, G.W., 657
 Tesseraud, S., 278
 Thammassirak, S., 314
 Theodoridou, M., 566
 Theodosiou, M., 260
 Tine, M., 541
 Tomimoto, K., 716
 Treschow, A.P., 645

Author Index

Trombetti, F., 616
Tsitsilonis, O.E., 1
Tsugehara, T., 358

Ushio, H., 230
Usui, R., 164

Valakos, E.D., 1
van Woesik, R., 583
Vater, M., 492
Ventrella, V., 616
Verza, N.C., 597
Vinecky, F., 597
Voelter, W., 1
Voigt, C.C., 492
Vonghia, G., 498
Voss, S.R., 260
Voutsas, I.F., 1

Wang, B., 482
Wang, H., 271
Wang, M.-R., 222
Wang, P.A., 504
Wang, Y., 466
Wang, Y.Z., 445
Watanabe, K., 38
Watanabe, M.X., 667

Wei, Z., 147
Wellman-Labadie, O., 172
Wood, N.A.R., 102
Wright, P.F.A., 645
Wu, C., 147
Wu, L., 704
Wynne, P.M., 645

Xiang, J., 482
Xiang, J.-H., 191
Xing, J., 172
Xu, C.L., 445
Xu, J.-Y., 29
Xu, J.-Y., 452
Xu, P., 135
Xu, Y., 135
Xuan, X., 93

Yabe, M., 682
Yamano, Y., 45
Yamano, Y., 512
Yamazaki, T., 716
Yan, D., 147
Yang, F., 222
Yang, H., 460
Yang, J.-S., 222
Yang, S., 271

Yang, W.-J., 191
Yang, W.-J., 222
Yasunaga, G., 667
Ye, H.-Q., 452
Ye, W., 325
Ytrestoyl, T., 250

Zanotti, F., 498
Zhang, H., 147
Zhang, H., 460
Zhang, H., 704
Zhang, P., 460
Zhang, P.-J., 135
Zhang, X., 460
Zhang, X., 482
Zhang, Y., 135
Zhang, Y., 325
Zhang, Y.-X., 29
Zhang, Z., 466
Zhao, S., 271
Zhu, P., 325
Zhu, X.-J., 191
Zhu, X.-J., 222
Zhu, Z., 271
Zou, Z., 466

